

Claims:

1. A reagent vial for use with automated processing devices which utilize elongate probes to withdraw reagents from vials comprising

5 a container portion configured to contain a volume of liquid reagent, said portion having an upper end and a lower end,

said upper end configured to provide means for access to the contents of the container portion by a probe used to withdraw a predetermined amount of the liquid contained therein,

10 said lower end configured to provide a chamber having a lesser cross sectional area than the container portion, said chamber configured to contain a portion of the volume of liquid reagent and aligned with the probe access means, thereby providing a means for accessing the liquid reagent contained in said chamber and reducing the residual volume of reagent which can not be
15 withdrawn from said vial by said probe.

2. A reagent vial as recited in claim 1 wherein said chamber is unitarily formed with said container portion.

20 3. A reagent vial as recited in claim 1 wherein said container portion has a substantially rectangular horizontal cross section.

4. A reagent vial as recited in claim 1 wherein the chamber has a lower end of substantially hemispherical configuration.

25 5. A reagent vial as recited in claim 1 wherein said upper end is further configured to provide means for labeling said reagent vial with information which is perceptible when viewing the upper end of said vial.

6. A reagent vial adapter for use with a reagent vial in automated processing devices comprising

a receptacle portion configured to releasably receive and maintain in a substantially upright position a reagent vial having a container portion configured to contain a volume of liquid reagent, said container portion having an upper end and a lower end, said lower end configured to provide a chamber having a lesser cross sectional area than the container portion; and

a positioning means for positively locating said chamber of the reagent vial, and thereby maintaining said reagent vial in the desired location within the adapter.

7. A reagent vial adapter as recited in claim 6 wherein said receptacle portion has a substantially rectangular horizontal cross section.

8. A reagent vial adapter as recited in claim 6 wherein said adapter further comprises means for facilitating the removal of any liquid contained within said adapter.

9. A reagent vial adapter as recited in claim 6 wherein said positioning means comprises an orifice for receiving at least a portion of the chamber of the reagent vial.

10. A reagent vial adapter as recited in claim 6 wherein said receptacle portion is configured to receive and position said reagent vial in both horizontal and vertical dimensions.

11. A reagent vial system for facilitating use of a reagent vial in automated processing devices which utilize elongate probes to withdraw reagents from vials comprising

a reagent vial comprising

5 a container portion configured to contain a volume of liquid reagent, said portion having an upper end and a lower end,

said upper end configured to provide means for access to the contents of the container portion by a probe used to withdraw a predetermined amount of the liquid contained therein,

10 said lower end configured to provide a chamber having a lesser cross sectional area than the container portion, said chamber configured to contain a portion of the volume of liquid reagent and aligned with the probe access means, thereby providing a means for accessing the liquid reagent contained in said chamber and reducing the residual volume of
15 reagent which can not be withdrawn from said vial by said probe; and

a reagent vial adapter for use with said reagent comprising

a receptacle portion configured to releasably receive and maintain in a substantially upright position said reagent vial by engaging the container portion thereof, and

20 a positioning means for positively locating the chamber of the reagent vial, and thereby maintaining said reagent vial in the desired location within the adapter.

12. A reagent vial system as recited in claim 11 wherein said container
25 portion of said vial and said receptacle portion of said adapter have complementary substantially rectangular horizontal cross sections.

13. A reagent vial system as recited in claim 11 wherein said reagent vial and said adapter have complementary means to position said reagent vial in both
30 horizontal and vertical dimensions in said adapter.